DOCUMENT RESUME

ED 031 853 40 EC 004 219

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Demonstration Project for the Initiation of Summer Curriculum with Special Emphasis upon Language Acceleration for Hearing Impaired Children. Final Report.

Gallaudet College, Washington, D.C.; Kendall School for the Deaf, Washington, D.C.
Spons Agency-Office of Education (DHEW), Washington, D.C. Bureau of Education for the Handicapped.
Bureau No-BR-7-0889
Pub Date Dec 67
Grant-OEG-2-7-070889-4308
Note-40p.
EDRS Price MF-$0.25 HC-$2.10
Descriptors-Audiovisual Aids, Auditory Training, *Aurally Handicapped, Educational Innovation, *Exceptional Child Research, Filmstrips, Instructional Materials, *Language Enrichment, Lipreading, Overhead Projectors, *Program Evaluation, Reading Instruction, Recreational Programs, Scheduling, Speech Instruction, *Summer Programs, Summer Schools, Teaching Methods, Unit Plan

To demonstrate the need for summer educational programs for hearing impaired children and to study ways of implementing programs, a summer program, conducted at a school for the deaf, was utilized. Twenty-two educators in four groups observed the program for four days each, met for discussions, and analyzed strengths and weaknesses. Academic and recreation programs were provided for 126 students from 4 to older teens in age; teachers were encouraged to be innovative. Summeries of teaching units for age groups from 4 to 6 through adolescents, and summaries of three special programs and a recreation program are presented. Replies of observers to an evaluative questionnaire are provided and reveal generally favorable attitudes to the program and to the possibility of starting summer programs at other schools. (RJ)

ED031853

BR-7-0884

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DEMONSTRATION PROJECT

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For the Initiation of Summer Curriculum With Special Emphasis Upon Language Acceleration for Hearing Impaired Children

Final Report ;-- December 1967

KENDALL SCHOOL FOR THE DEAF
GALLAUDET COLLEGE
in cooperation with
U.S. Department of Health, Education and Welfare
Office of Education
Washington, D.C.

EC 004 212

FINAL REPORT

DEMONSTRATION PROJECT FOR THE INITIATION OF SUMMER CURRICULUM WITH SPECIAL EMPHASIS UPON LANGUAGE ACCELERATION FOR HEARING IMPAIRED CHILDREN

The project reported herein was conducted under grant OEG 2-7-070889-4308 issued by the United States Office of Education, Bureau of the Education of the Handicapped.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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December, 1967

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I. INTRODUCTION

The intent of this project was to demonstrate the need for summer educational programs for hearing impaired children and to study ways of implementing such programs so that they become most beneficial to the individual child. While many professionals are beginning to realize that a nine months' school year is an anachronism, and that empty school buildings during the summer months in these times are an irresponsible waste, there are many different theories as to the didactic structure of a summer school.

The problem of the nine months' school year is even greater for a handicapped child, because the three months' absence of educational attention results in a regression of abilities which are already retarded. This applies particularly to the hearing impaired child who lives in a large city and tends to be left on his own during vacation.

The purpose of the present report is twofold; (a) to report on the major aspects of the program, and (b) to present specific details for teachers. It is hoped that this combination will convince program directors to initiate the summer school as a standard part of the school year, and that it will inspire classroom teachers to such a degree that the summer school experience becomes especially meaningful to the student and contributes to his growth in language - his most deficient ability.

The report should not be considered as a fixed curriculum. The concept of curriculum is used here in its broadest but deepest sense. This particular curriculum directed itself to:

A. Stimulation of the individual child's level of learning ability and interest.

B. Guidelines to provide learning situations which implement the generalized teaching of language concepts.

II. PURPOSE

A. Dissemination of the concept that summer programs are not only valuable, but necessary.

B. Demonstration of a workable, prototype program.

C. Discussion with visiting professionals from the field of deaf education of ways and means by which these programs can be best implemented.

D. Discussion based on observation of the Kendall School summer program. This program was conceived as an experimental project which would involve the following basic features.

1. An educational situation in which emphasis was upon the combination of language and speech development balanced with a recreational program.

2. An opportunity for the teachers to plan a curriculum that would meet the individual needs of a class of six children. Such a curriculum would aim at providing the children with a learning, rather than a teaching situation.

3. The availability of modern educational equipment and material appropriate to "2" above: multi-media classrooms; an educational media center -- a facility for the production of visual materials (transparencies, slides, Polaroid 8mm films, etc.); and a library center (books, films, filmstrips, etc.), both professionally staffed.

4. An introduction to programmed instruction and teaching machines.

5. A preliminary evaluation of visual speech training aids.

In view of the relatively short tenure of the project, the faculty was steadily encouraged to try out new ideas, new programs, and new approaches to stimulate the individual child's interest in learning; teachers were also urged to accumulate information about the most profitable structure of summer programs. This encouragement resulted in stimulating discussion sessions between the groups of visiting professionals and the Kendall teachers.

I.II. PROCEDURES

There were two major areas within the Kendall demonstration project.

A. An observation program for professional participants. Persons from institutions for the deaf who would most probably arrange for future summer programs were invited. Twenty-two of forty invited educators were able to attend the project. More were interested but could not attend because of earlier commitments to other workshops or conferences.

The participants visited in four separate groups. Each group stayed at Kendall for four days, during four successive weeks.

After daily observations in the classrooms and in the recreation areas, the participants met for seminar discussions during which highlights and weaknesses were analyzed and recommendations were made for the improvement of future summer programs.

B. The Kendall Summer School for hearing impaired children of the greater Washington metropolitan area.

1. Student Population: Pupils were selected on the basis of the following criteria:

a) The child's hearing impairment had to be of such a degree that he was in need of special education.

b) All types of academic as well as age levels had to be represented.

It was originally proposed that 120 deaf children be chosen from the greater metropolitan area of the District of Columbia. These children would live within the neighborhoods served by the prescribed bus routes. The pupil enrollment was actually 126.

2. Academic Program: The entire program focussed on language enrichment. Didactic features of the program were:

a) Continuous auditory training through the use of high fidelity classroom amplification systems.

b) Visual reinforcement of reading skills through presentation of educational movies, filmstrips and overhead projector transparencies.

c) 8mm moving pictures, produced by teachers and students for language development.

d) Development of conversational language through lipreading and speech.

e) Structured language work.

f) Creative writing.

g) A typewriting class for older students. Several typing students advanced sufficiently to be able to begin work on the IBM keypunch machine.

h) Speech development using modern electronic devices.

i) A pilot project in programmed instruction.

3. Recreation Program: Section IV C. contains a detailed report of the summer's recreational activities. Listed below are the important areas of instruction.

Physical fitness through participation in a variety of activities:

a) gymnastics, low organized games;
b) tennis and archery;
c) instruction for beginners to advanced classes in swimming;
d) classes in rhythm and dance.

The recreation program was geared to individual physical education - a type of activity of which most metropolitan children are deprived.

4. Faculty: The faculty for the academic section was composed of Kendall School teachers, all of whom had a Masters degree, or an equivalent background of experience.

The staff for the recreation program was as follows:

1 Director - Assistant Professor in Physical Education at Gallaudet

4 Specialists - dance, swimming, low organized games, tennis and archery

5 Head Counselors

5 Assistant Counselors

This arrangement made it possible to have the children divided into five groups with two counselors per group.

5. Facilities: Kendall School with its air-conditioned, completely equipped classrooms, its library, Educational Media Center, home economics room, art room and gymnasium. Men's and women's gymnasiums of Gallaudet College, the Gallaudet swimming pool and game fields.

6. Daily Schedule:

8:30 - 9:30 Bus transportation

9:30 - 12:00 Academic Program

12:00 - 1:00 Lunch

1:00 - 3:30 Recreation Program

3:30 - 4:30 Bus transportation

3:30 - 6:00 Discussion of observations with participants

IV. PROGRAM

The first question posed to each group of participants upon arrival was "What do you expect from a summer program?" The responses can be summarized as follows:

> A summer program should entail new ideas and provide an opportunity for the teacher to experiment with new methods and materials. Special emphasis should be placed upon individualized language instruction (tutoring or small classes) and on social development.
>
> A summer program should be a period where the child can experience success, where he has freedom to perform without the pressure of having to achieve certain grades. The summer months should also provide time for establishing better contacts with parents, for clinical re-evaluation of the children and for applied educational research. The program should, above all, be different from the regular school year and provide the teachers with time to take a new look at our instructional methods and materials and determine how they need to be changed to meet the world that our children are living in.

There is no question about the need for providing appropriate summer programs for hearing impaired children. Furthermore, from the above summarized comments, it can be seen that there is agreement that the summer program should be different from the regular school year. These various suggestions demonstrate that the lack of summer programs is not due to a paucity of ideas. The comments made by the participants indirectly cast a shadow on the regular school curriculum, if a summer program offers the only opportunity to focus individual attention on a child's social development or provide a teacher with more time for the preparation of a lesson which teaches the child a functional vocabulary geared to the child's actual environment.

Moving on from theories of the goals of a summer school to actual practice, samples are presented in the following sections of teaching units used during the summer at Kendall School.

A. Summaries of Teaching Units

4 To 6-Year Olds

Two classes of first year students attended the program. For one, an exceptionally bright group of 4 and 5-year-olds with preschool experience, the summer served as an orientation to regular academic work. The other group, although older, required a program that emphasized the development of social maturity. The activities of this group are described below:

Students: A class of five 6-year-olds, at least three of whom had severe behavioral problems.

Program: One of the teacher's prime goals was to guide these very disturbed children toward greater social maturity. Each child was encouraged to learn the self-discipline which is necessary for any kind of group work.

Classroom activity was carefully planned around four children's stories: Rapunzel, Three Little Pigs, The Ugly Duckling, and Andy and the Lion. One primary aim was simply to develop the concept of the story. Each story was told and retold orally, and through a variety of media.

The teacher followed a similar pattern when presenting each story. She began with a movie version for orientation. This was followed by a filmstrip version. The filmstrip, being static, permitted a leisurely discussion of each frame. Pictures copied from the filmstrip were given to the children for coloring. These also stimulated discussion.

The story was retold once more through a series of overhead picture transparencies made from the film strip. The children were encouraged to help caption these with such sentences as "This is a pretty girl," "This is a bad old woman." The completed captions were saved and used for subsequent exercises in which the children were required to match them to the picture transparencies.

The teacher frequently retold the story as a lipreading game; she also asked the children to retell it themselves, using any form of expressive language of which they were capable. The children also drew pictures of the story which the teacher labeled for them in appropriate language.

As the children became better story tellers, other activities were introduced. The story was dramatized, with each member of the group taking turns at the different roles. The children cut out paper costumes for the dramatizations; as they did this, the teacher introduced the names and colors of clothing.

The dramatizations were photographed with a Polaroid camera, labeled, and then incorporated in large-scale class story books. The children were very enthusiastic about this activity, taking great delight in finding themselves the characters of a book. The teacher found the Polaroid to be a superior motivating device.

Other structured language work was often related to the four stories. A selected vocabulary of nouns, verbs, and adjectives was emphasized. Who, what, and where questions were frequently based on the familiar fictional characters.

Speech work centered on individual sounds and whole words. A major source of auditory training material was recorded music played through the group hearing aid. In order to make the children aware of the musical beat, the teacher had them stand in a circle holding hands and swinging their arms in rhythm. This method permitted those with the least hearing to learn from those who could hear more. Later on clapping exercises were introduced. The children were instructed to clap rhythmically until the music stopped. Eventually, the whole group became aware enough of sound that they were able to play some very animated games of musical chairs.

7-Year-Olds

There were three groups of 7-year-olds. One of these was a class of average academic ability. The other two classes contained academically retarded students and included several cases of suspected brain damage.

The unit followed by the first class is described in the following pages.

Students: There were five students in this class. Three who had average academic ability had been grouped together before. Two were newcomers to the group. By the end of the summer it became clear that while one of these two could, with encouragement, perform successfully at the group level, the other would profit more by returning to a slower-moving class.

Program: Four main areas of work were emphasized: Reading, vocabulary development, auditory training, and speech. Much of the classroom activity was interrelated and based upon a series of six children's classics: Caps for Sale, Play With Me, Angus and the Ducks, The Story about Ping, Peter Rabbit, and Blueberries for Sal.

Each story was presented according to one basic method. The teacher started with the book. The small group gathered around her, while she told them the story and pointed out the illustrations. The next step was a movie presentation which brought the story to life for these unpracticed readers. Some vocabulary was selected from the movie and reinforced in various classroom situations. Next an uncaptioned filmstrip was shown. Using the overhead projector, the teacher and the students prepared their own captions for the filmstrip. New vocabulary was naturally emphasized here. The filmstrip was reviewed several times, and the children were expected to remember an increasingly large number of new words and language patterns.

Related language drills were accomplished as the teacher and children worked simultaneously on prepared worksheets. The teacher's "worksheet" was an overhead transparency; the students', a ditto sheet for desk work.

After that the students read the story (without assistance from pictures) from an overhead transparency. They were required to show their comprehension by dramatizing what they read, using an assortment of interesting props such as real caps, and real blueberries. Several times during the summer the teacher filmed 8mm movies of these dramatizations. These movies, having been inserted in continuous loop cartridges, were available for frequent classroom discussions and independent reviewing of language principles.

Familiar animals were the central characters in most of the stories. The teacher, therefore, selected poems and songs about these animals for speech work. Finger plays and games were introduced to enliven the lessons. The teacher also prepared flannel board displays for the children to manipulate as they sang or recited.

The Language Master was also used for speech and auditory training. Upon it the teacher recorded all of the new summer vocabulary. The children practiced with the machine independently until they were secure enough to compete in a weekly spelling and vocabulary contest.

The teacher found that these six books provided an exceptionally cohesive program because much of the basic vocabulary was repeated in each story.

Special Project: Each child left the classroom for a short time every day to work on programmed reading.

8-Year-Olds

There were four classes of 8-year-olds. Two of these were of better than average academic ability. The remaining two were slow-learners. The unit that follows describes the activities of one of the brighter groups.

Students: Four 8-year-olds. All had good oral communication, good expressive language, and second grade reading comprehension.

Program: Expressive language, both oral and written, was emphasized throughout the summer. Considerable time was spent each morning discussing subjects in which the students declared interest. These ranged from weekend activities such as swimming, hiking, and putting up a tent (at one point the class moved outside and put up a tent) to ordering food at restaurants, attending church socials, and knitting. Discussion was animated in this small group of alert students. The teacher as monitor was able to supply vocabulary when needed, as she sat at the overhead projector.

A special study unit on fish and aquariums stimulated a great deal of language. The class was first introduced to an aquarium through library books and overhead transparencies. Lists of materials and equipment were made, letters requesting permission to buy them were written, and finally a field trip to a pet shop was planned. While at the pet shop the teacher took a series of color slides. Later the children viewed these slides in sequence and wrote a story of their trip.

The children formulated rules for the care of their fish and wrote endless stories about them. The teacher stressed paragraphing as well as sentence writing skills. The students also wrote enthusiastic paragraphs about "George", the alligator who was in residence in another classroom.

When enough vocabulary had been established, the teacher was able to show two captioned films, A Balanced Aquarium and Sandy the Snail. The students read the captions easily. Sandy the Snail, which contains a sequence showing ways to paint sea animals, was imitated in class. The children painted water color pictures of sea creatures and then wrote stories about them.

The teacher followed two other separate units during the summer. The first was work on the SRA Reading Laboratory. At first the children were rather hesitant about doing this independent work. The teacher found that overhead transparencies both saved time and built confidence when she demonstrated SRA procedures. She also found the overhead invaluable for reviewing the SRA vocabulary.

A last very popular unit consisted of learning the rules and appropriate vocabulary for a series of children's card games. Needless to say these little 8-year-olds applied themselves earnestly to the task. Enthusiasm was only slightly dampened by the requirement that they accompany every triumphant move by correct speech and language.

10-Year-Olds

Two classes of 10-year-olds attended the program. One was a class of average ability with potential. The other group, whose program is described here, contained slow-learners and borderline retarded students.

Students: Six 10-year-olds who are academically retarded and have a history of behavior problems.

Program: The theme for the summer's work was "Community." The teacher began with the students' own families and homes. Using overhead transparencies, pictures, and books, the class gradually learned to identify row houses (which abound in Washington), apartments, and one-family houses. A filmstrip on different kinds of houses reinforced each concept.

Apartment houses were studied in more detail. The captioned film The Apartment House provided a good introduction. Important vocabulary such as lobby, basement, elevator, and floor was selected for memorization. The movie Shelter brought in more background. A camera trip out into the city resulted in a series of meaningful color slides illustrating the different parts of typical apartment houses. These slides were used again and again in the classroom for recognition, discussion and captioning. The students made their special contribution when they invented a game called "Playing Elevator."

The unit then progressed to neighborhood stores. The class studied in turn the laundry, the drycleaners, the drug store and the supermarket. For each subject, appropriate filmstrips and movies were shown and a specified amount of simple language patterns and vocabulary were drilled. The teacher devised a great many transparencies and ditto worksheets in order to present this vocabulary in a variety of ways. She also used books, study prints and, when possible, old trade association magazines. She drew upon the public library's resources in order to find educational films when captioned films were unavailable.

The study of the supermarket was a particularly rich area. The children enjoyed reviewing the food vocabulary which they already knew and adding to it. They also had a good time "Playing Store."

Work outside of this unit on "Community" included seatwork in the My Weekly Reader Practice Book and in First Reader Seatwork. Speech work consisted of remedial drill on elements and conversational phrases. Records were frequently used for auditory training.

11 To 13-Year-Olds

Children at this age level were grouped into four classes. The abilities of these groups ranged from excellent to borderline retarded. The work of two groups, one class of slow-learners and one of superior ability, are described in the following pages.

A. Students: An all-boy class of seven slow-learners reading at approximately second grade level. All of the students had poor written language; a few had difficulty with simple manual communication. All but one student had some usable speech, but all were hampered in oral expression by lack of language.

Program: All language work was based upon a nature study program. The students were introduced to two reptiles, an alligator, and a turtle. As the boys studied these creatures and learned to care for them, the teacher introduced new vocabulary, encouraged spontaneous language, and drilled on very simple sentence structure. Descriptive words such as rough, smooth, light and slit were easily related to real-life subjects. Construction of straight sentences came painlessly when the sentences provided such information as "George can run on the grass." The reptiles ("George" the alligator, and "Tippy" the turtle) cooperated admirably by providing situations for natural language such as "George refused to eat his breakfast," "Tippy likes to play in the sun," "Peter knows how to pick up an alligator," "We all looked down the alligator's throat!" Much of this language was saved for reference in special notebooks kept by each student.

At the end of the summer, the class visited the Washington Zoo where they received a pre-arranged guided tour of the reptile house. The teacher used captioned films and filmstrips to provide supplementary information about the natural habitats, characteristics, and care of the two reptiles. This captioned material also provided an opportunity for vocabulary enrichment and for the development of reading skills.

Whenever possible the students were directly involved in the use of the Polaroid camera. They selected the shots to be taken, and planned captions in advance. They voted for favorite pictures upon which to base notebook stories.

The overhead projector was used in a number of ways. Projected transparencies introduced new concepts and new vocabulary. With the teacher as monitor, the overhead served as a medium for group participation in the composition of reports and stories.

The class made several 8mm movies of the two reptiles, captioning them with sentences which had been composed during a structured language period. These movies were put in continuous loop cartridges for easy insertion in a rear screen projector. The students used these cartridges frequently for independent language review and for demonstrations to other classes.

A series of color slides was taken during the trip to the Zoo. Later discussions and written compositions were based upon them.

Special Project: Each student spent some time each day at lipreading practice, using a series of color films and 8mm rear-view projects. All of this work was done independently.

B. Students: Six students, most of them above-average academically, with good oral expression, reading at the high third or fourth grade level. They are an exceptionally well-informed, inquisitive, and, except for one boy, well-adjusted group. They are part of a larger class that has worked well together for several years.

Program: Work areas stressed during the summer were reading skills, vocabulary development, speech, and understanding and awareness of idioms. Reading and vocabulary work centered about a unit on the Mississippi and Rhine Rivers. The Mississippi was chosen as an enrichment subject to follow a course in American History which the children had just completed.

The approach was historical, geographical, and cultural. The children studied famous explorers; they discussed the advantages of rivers (transportation), and the disadvantages (floods); they read legends, folk tales, and classical stories associated with the rivers and the lands bordering them.

Although captioned movies were used for a general orientation, film strips and teacher-made transparencies were the main source of reading material. Many of these filmstrips contained excellent illustrations but were captioned at a very difficult reading level. It was discovered that when a printed caption on a filmstrip was blacked out, a new one could be superimposed from the overhead projector on the same screen, directly beneath the filmstrip picture. The teacher therefore recaptioned filmstrips at an appropriate level, repeating new vocabulary and language patterns frequently, in order to give more adequate reinforcement. Since all of the material related to one major topic, this repetition followed logically and naturally.

It should be noted that all of these group-read stories were deliberately written at a level which still involved considerable challenge. Follow-up ditto worksheets were a regular check of individual comprehension.

Reading skills were further developed through teacher-written stories designed to enable the students to guess word meanings and idioms from context. These stories presented on the overhead were at a fairly difficult level and intended for group reading only.

The SRA Reading Lab was introduced in order to develop individual reading skills. Because the material contains no grade level, the teacher was able to start the students at a level which she alone knew was second grade. At first the students worked on the SRA in class; later they did it as voluntary homework. The summer students became very enthusiastic about this independent work in which they were able to go at their own pace and in which they received no corrections from the teacher. In the fall, they became "teachers' aides" and in a remarkably short time taught (and motivated) their returning classmates to use the SRA.

There were several approaches to work on idioms. They were practiced in classroom speech work; they were explained as the class "sang along" with folk song records; they were recorded and illustrated on the Language Master. Polaroid shots of the students themselves made especially popular Language Master illustrations.

As a special project, the class studied idioms based on the verb to make (make up one's mind, make oneself at home, etc.) and combined reinforcement of these with grammar drills on four tenses of to make. The students also made a series of slides illustrating each idiom, which they reviewed in summer classes, and have since "taught" to all of their classmates.

Special Project: Four of the students went out of the room for a short time each morning for intensive therapy at the speech machines.

Older Teenagers - 14 and Over

There were five classes of older teenagers. Two of these had average or better abilities; one was a class of slow-learners; two classes contained retarded students.

Described below are the typing program followed by two of the classes, and a special program designed for one of the retarded groups.

A. Students: Older teenagers (14 and over) of average to good academic ability.

Each group spent a portion of the day at a language class that included work in reading skills, writing, and public speaking. The typing program described below was also offered to each group.

Typing Program: Although a traditional typing curriculum was followed, many variations in presentation were necessary in order to overcome the problems presented by both hearing loss and language deficiency. Visual media were especially useful. Besides a standard textbook, the teacher used the Perceptual Development Laboratories "Perceptoscope" material (a series of programmed films with both animated and still visuals) to introduce such lessons as correct posture, learning the parts of the typewriter, selecting the right keys, and tabulation. He supplemented these films with teacher-made transparencies and slides. Much of this media was available to the students for independent review work whenever necessary.

The teacher substituted three different forms of dictation. He used signs and fingerspelling, varying his speed as an oral dictator would vary the speed of his voice. He required the students to do a certain amount of lipreading, although this put a rather unfair burden upon the poorer lipreaders. His third, and perhaps most successful method was a complete innovation. Words for dictation were typed upon regular mimeograph stencils. These were cut up and fitted into 2x2 slide frames. The frames were then inserted into a carousel projector, and displayed at properly timed intervals upon a screen from which the students copied them. The students particularly liked this method, were able to use the carousel without assistance from the teacher, and worked with it voluntarily during their free time. As the program progressed, the teacher recognized that this enforced visual dictation was actually an advantage, because it was a certain guarantee that the students had not adopted the bad habit of watching their hands while they typed.

The ever-present language problem hampered even typing progress. Students were slow to learn the names of machine parts. Following even the simplest directions was sometimes too difficult. The teacher supplemented all of the Percepto-scope material with his own transparencies in order to reinforce vocabulary and develop skill at following directions. He made a special point of including familiar and useful words in his dictation. At first he used the carousel to dictate isolated words; later, realizing its potential, he arranged the slides so that the students who copied them correctly found themselves typing interesting English sentences.

B. Students: A group of four 15-year-old boys reading at a low second grade level. Two are profoundly deaf with no usable speech. One is hard of hearing, capable of imitative speech, but unable to understand the meaning of the language involved. The fourth is hard of hearing, with intelligible speech which he is reluctant to use because of emotional problems. All four have great difficulty with written language.

Program: All language work was based upon three summer projects; washing cars, building a bookcase, and building model cars. Money earned by car washing enabled the boys to purchase material for the other two projects.

Appropriate vocabulary was developed for each activity. The boys learned the names of all of the tools that they used and practiced using this vocabulary in simple descriptive sentences which later became captions in a student-produced 8mm movie.

Spending class funds ($12 earned at car washing) led to a considerable amount of practical arithmetic, as did designing and measuring the bookcase.

Formal speech work emphasized correct production of simple phrases. Conversational speech was based on subjects of common interest and whenever possible was based upon the planning of activities. During relaxed conversational periods with this very small group, the teacher was able to establish rapport with one of the more disturbed members of the group who has a history of withdrawn behavior. This sort of rapport is, of course, a requirement for any sort of learning.

The teacher refrained from using commercially made films and filmstrips. These were not applicable to the special summer projects and in general contained insurmountable language problems for these slow readers.

Instead the students made their own 8mm movies, captioning them with sentences composed during formal language classes. The teacher planned these films as media which could be used again and again by students doing independent review work. Films were enclosed in cartridges for easy insertion in an 8mm projector, and all are still in constant use.

The Polaroid camera was invaluable for this class. Pictures made during each activity were captioned and displayed on a bulletin board for easy reference. This bulletin board has since been dismantled, but the pictures have been incorporated in a series of albums which the students now refer to frequently.

Special Project: The four boys spent a regular period every day working at the programmed reading described in Section IV B1.

B. Special Programs

1. Reading Program

Sixteen children participated in an experiment in programmed reading. This program was designed at the University of Southern Florida (Tampa) for mentally retarded children who have failed in reading when taught by other methods.

The 6,000 frame program attempts to teach a 300-word sight vocabulary. The vocabulary is a combination of words commonly found in first, second, and third grade readers, and function words such as "Danger" and "Poison." It includes all parts of speech. Words are taught individually, in phrases and in sentences.

Extensive repetition is the major teaching technique. Each word is repeated five consecutive times initially, and reinforced countless times throughout the program.

The material is presented on a Mast teaching machine which contains a viewing screen upon which a question is exposed. The student writes his response on a paper tape. He then pushes a button to expose the correct answer. As the correct answer is revealed, the paper tape advances so that a clear plastic shield covers the student's answer. He checks the correctness of his response and presses the advance button to expose the next question.

It was found that four students who averaged 15 years of age and reading levels of 1.5 to 2.0 gained confidence and some new skills and reading vocabulary. These students did not become bored with the work.

Of six 6 and 7-year-olds, four evidenced enjoyment and showed improvement on tests. Two others did not enjoy the work and did not do well. At times these brighter students showed impatience at the amount of repetition.

Of six 5 and 6-year-olds, three showed evidence of progress and three did not. At this age level it was demonstrated that the children could not really work effectively by themselves. However, when the teacher sat with the child individually, using the machine as a sort of mechanical book, the child learned both vocabulary and some sentence patterns.

2. Lipreading Program

One class practiced extensively with a lipreading program. This program contains 152 continuous film loops which are presented on 8mm rear screen projectors. Responses are made by writing. A modification of the projectors permits the student to stop the film in order to look at his response. Students were able to work at this program with complete independence.

3. Speech Training Program

The original speech aids developed in Sweden were demonstrated by the designers during an international conference on Speech Analyzing Aids for the Deaf held at Gallaudet College June 14-17 (OE Grant: OEG2 - 7-070630-3024). After the conference, Mr. Janos Martony, a Swedish engineer and teacher of the deaf, began a series of pilot tests of visual speech training with pupils at Kendall School, as a consultant to the program. The series began July 6 and recessed in August. The following sections describe the visual speech indicators used and the results obtained.

S-Indicator. The s-indicator is a small, adjustable meter with self-contained microphone, and s-indicating lamp. The needle of the meter moves upward and the lamp lights up when a clear sharp s-sound is spoken. If the s-sound is too diffuse in spectrum (like sh or f) the needle rises only partially and the lamp does not light. This is almost universally the case with deaf talkers, because the long, narrow tongue-pass for a correct s cannot be seen and thus it is very difficult to teach. The s-indicator attempts to replace audition in indicating the sharpness of the sound.

Six children, ages 8-12 years, were trained with the s-indicator. The results were very good; the pupils learned the correct tongue position with some help from the teacher and some practice alone with the indicator.

Nasal Indicator. This indicator is a small meter, like the s-indicator, but with a vibration pick-up that is held against the nose to detect nasality. The vowels and consonants of deaf talkers are often heavily nasalized because they cannot hear the nasal quality. The nasality is often so heavy that it entirely obscures the normal sound qualities necessary for correct communication. The nasal indicator gives a very definite, reliable, movement of the meter needle as soon as nasality occurs. In addition to the meter needle, a red light is provided which lights up when a threshold of vibration is exceeded. The threshold can be quickly adjusted by the teacher.

Four children, ages 8-12 years, were trained with the nasal indicator, first to produce correct nasal consonants, like m, and then to partially suppress nasality of vowels. The nasal consonant training was easier and more successful than the suppression of nasality.

The pick-up can be used on the throat to detect larynx voicing and thus provide indication of voice production for early stages of speech training. This proved successful when tried with children 5 to 6 years old.

Voice - Pitch Indicator. Two types of voice pitch indicator are available. One is a simple meter, like the s-indicator and nasal indicator, but the needle deflection is proportional to voice pitch when the vibration pick-up is held against the throat. A voice pitch that is too high, as is usually true of deaf talkers, is quickly seen as a too-high needle position. As soon as the pitch drops, the needle also drops.

The other pitch indicator displays a spot of light on a phosphorescent screen somewhat like a small television tube. The spot traces a trail in time across the screen from left to right; the trail persists long enough to see the whole trail and then fades away. The height of the spot is controlled by the throat pick-up to be high when voice pitch is high, and lower, in proportion, when the pitch is lowered. Thus the voice pitch variation in time can be seen in a time contour. These contours express by voice such things as questioning, stating, surprise, and the various emotions.

Four children, 10-12 years old, were trained to lower their voice pitch by watching the pitch indicator. After some introductions by the teacher, the pupils were able to practice by themselves.

Speech Spectrum Indicator. The frequency spectrum patterns of speech sounds contain many indications of speech quality and correct articulation. These spectrum patterns can be analyzed and displayed visually for articulation training. Such an indicator is complicated but, after initial training with the simple indicators for vocalization, voice pitch, nasal control, and rhythm, it is necessary to train on articulatory details which can only be seen through spectrum analysis.

The spectrum indicator was used for vowel training and for words and sentences with four 10-year-old children. The children were trained on the indicator by an experienced teacher. The results were very good. The children improved in vowel articulation. There appeared to be very little difficulty in teaching the children to recognize the correct part of the visual spectrum pattern for the different sounds.

C. Recreation Program

The recreation program was planned so that the students received experience in swimming, in dance, and in both individual and team activities. Special emphasis was given to work in rhythm, balance, and swimming skills.

The organization of the program was as follows:

The students were divided into five groups with two counselors per group. A third assistant was added to the youngest group because of the special problems which exist with children of this age.

Group I - 25 children--ages ranging from 4 1/2 years to 7 years; 2 counselors (a third counselor was added half-way through the program)

Group II - 25 children--ages 7, 8, and 9; 2 counselors

Group III - 30 children--ages 8, 9, 10 and 11; 2 counselors

Group IV - 25 children--ages 11, 12, 13 and 14; 2 counselors

Group V - 16 children--ages 15, 16 and 17; 1 counselor

Grouping by age was considered to be a flexible arrangement; exceptions were made so that most academic classes remained intact and participated as a group in the same recreational activities. The children thus felt comfortable and relaxed and were able to develop good teamwork.

Each group had a head counselor who was selected on the basis of previous experience, outgoing personality, and ability to perform athletically. These head counselors acted as assistants to the various specialists. There was one assistant counselor in each group, except for the oldest group. A second assistant was directly responsible to the head counselor and in most cases was selected on the basis of personality, physical ability, and past experience.

All head counselors were 21 years or older and were college graduates. All assistant counselors were at least 16 years of age, and most were college students.

The initial schedule was as follows:

	Group I	Group II	Group III	Group IV	Group V
1:00-1:25	I Swim.	Gym	Games	Tennis	Dance
1:30-1:55	Dance	Swim.	Games	Tennis	Gym
			(Change every other day)		
2:00-2:25	Dance	Games	Swim.	Gym	Tennis
2:30-2:55	Games	Dance	Gym	Swim.	Tennis
3:00-3:25	Gym	Dance	Tennis	Games	Swim.
			(Change every other day)		

Arts and crafts were substituted for all archery and tennis classes on rainy days; volleyball, mass ball, or other indoor activity for all game classes on rainy days.

After the first week, the schedule had to be altered because:

1. It was found that most groups take 10 to 15 minutes to dress after swimming.

2. Two consecutive periods of outside activity are too long in the summer heat.

3. Only the two oldest groups should receive tennis instruction. Younger students are not interested and cannot manage heavy tennis rackets.

Still another change in schedule was necessary because it became apparent that five activities in one afternoon are too much for the children in the Washington summer climate, especially considering the length of the entire summer school-day. It was, therefore, recommended that the two youngest groups have a daily rest period, and that all five groups have arts and crafts daily.

The final schedule was as follows:

	Group I	Group II	Group III	Group IV	Group V
1:00-1:25	I Swim.	Gym	Dance	Games	Archery
1:30-1:55	[Dance	Swim.	Games	Tennis	Gym
2:00-2:15	Dance]	[Dance [1:45-2:15]	Swim.	Gym	Games
2:30-2:55	Nap, arts, crafts	Dance] [2:15-2:50]	Gym	Swim.	Tennis
3:00-3:25	Gym	Games	Dance	Archery	Swim.

The following equipment was used:

1. Tumbling mats
2. Trampolines
3. Balance beam
4. Water wings
5. Kick boards
6. Diving blocks
7. Lane ropes
8. Soccer balls
9. Softballs and bats
10. Bean bags
11. Batons
12. Tennis rackets and balls
13. Archery bows, arrows, quivers, finger tabs and targets
14. Record player
15. Records
16. World map
17. Jump ropes

The arts and crafts program included the following projects:

Group I

1. Macaroni and colored popcorn numbers
2. Macaroni and colored popcorn names
3. Bead necklaces and bracelets
4. Leather wrist purses
5. Drums made from large gallon cans supplied by the dining hall, old inner tubes, string and colored paper
6. Tambourines made of paper plates and pop bottle caps
7. Costumes for the show on the last day of the program
8. Hand puppets made from paper bags
9. Self-portraits
10. Newspaper hats

Group II

1. Macaroni and colored popcorn names
2. Bead bracelets
3. Leather wrist purses
4. Costumes for the show on the last day of the program

Group III, IV, V

1. Model airplanes for the boys
2. Gimp bracelets and lanyards for the girls
3. Copper pictures for the boys and girls
4. Costumes for the show on the last day of the program

During the third week and last week, there was a special program. At the end of the third week, a track and field day was organized. The events were as follows:

Group I

1. 25 yard dash
2. Bean bag throw for distance
3. Bean bag throw for accuracy
4. Running broad jump

Group II

1. 25 yard dash
2. Bean bag throw for distance
3. Bean bag throw for accuracy
4. Running broad jump

Group III

1. Kick ball game against Group IV
2. Kick ball game against Group V
3. 50 yard dash
4. 100 yard dash
5. Softball throw for distance
6. Running broad jump
7. 440 yard relay
8. Poppers for the balloon popping contest
9. Egg carrying contest
10. Egg catching contest

Groups IV and V

1. 50 yard dash
2. 100 yard dash
3. 440 yard run
4. 440 yard relay
5. Running broad jump
6. 440 yard walk race
7. Softball throw for distance
8. High jump
9. Blowers for the balloon popping contest
10. Egg carrying race
11. Egg catching contest

On the last day of the program, each group presented a show. Parents were invited and a panel of judges selected the top three performances.

V. EVALUATION

At the end of his stay, each participant had to fill out a questionnaire. The queries and replies are listed below:

	Yes	No
1. Would you like to implement a similar program next summer in your school?	90%	10%
2. Can you get enough teachers from your staff and/or other sources to operate a summer school?	85%	15%
3. Can you get enough students from your regular school population to warrant a summer school program?	80%	20%
4. Do you have the facilities to provide a program for physical education in your summer school?	65%	35%
5. Have you made application for a summer program in the last 5 years?	65%	35%
Were you successful in acquiring funds?	50%	50%
6. Could you operate a summer school on a day basis?	50%	50%
On a residential basis?	50%	50%
7. Do you have adequate audio visual equipment in your school now to implement a similar program?	55%	45%
8. Is the Kendall School summer program noticeably different from the regular school session?	100%	

If yes, how does it differ? (The comments are summarized.)

Greater teacher freedom; adequate time to prepare lessons.

Provides opportunity for teachers to explore new methods and techniques.

		Yes	No
	More creative		
	Children given more freedom, thus more relaxed, friendlier, receptive.		
	More relaxed, experimental atmosphere. More language oriented instead of strict schedule of formal subject program.		
	More recreation stressed.		
	Smaller class loads.		
	More media available.		
	No requirement to meet regular curriculum goals.		
9.	Is the success or failure of the program based on the media?	40%	60%
10.	Do you think that the afternoon program is a necessary part in the summer school?	100%	
11.	As an observer do you think you have acquired guidelines sufficient to make suggestions to your faculty in your summer program in the future?	90%	10%
12.	As a demonstration program we have established four general goals. Do you feel that we have met them?		
	a) That observers will be allowed to see what we do in our summer program	100%	
	b) That we have an effective combination of academic and physical education activities within our summer program. (The 50% who replied "No" suggested a mixing of activities rather than a morning-afternoon division)	50%	50%
	c) That our teachers be given enough freedom to be creative	90%	10%
	d) That the media be used constructively and that it be commensurate with the student's ability	70%	30%

At the end of the questionnaire, three questions were asked:

1. What would you delete in your summer program?

   90% -- Nothing

   10% -- Recommended either deletion of academic part for slow-learning children or shortening of school day.

2. What additions would you make: (Comments are summarized)

   Field trips to various points of interest.

   Part of recreation time to be spent teaching games which could be used in the home or with smaller groups.

   An aide to take pupils to and from the teaching and speech machines in order to save time for media specialist.

   More use of the blackboards.

   More use of the outdoors for observing and learning.

   More academic class time.

   A set of sharply defined objectives; guidelines to teachers as to ways and means of achieving them.

   More use of children's library.

   More emphasis on writing and reading.

   A two-fold program: (1) remedial - with prescribed plans
   (2) enrichment - with emphasis on teacher oriented plans

   An industrial arts program for the slower upper school children (which could be adequately equipped for the price of a speech analyzer).

   A creative arts program.

   Request more feedback from the children, particularly older or more capable children.

   More individual or very small group work.

Add a more oral approach to the summer program.

Greater variety in recreational program.

More family (parental or sibling) inclusion by way of observation, explanation, carry-over instruction. Weekly newsletters to parents to explain school activities.

Weekly faculty meetings to evaluate total program.

Anonymous suggestion box; ideas or criticisms from teachers participating.

3. Apart from the use of multi-media, what was the most positive part of the summer program you observed?

Mutual cooperation of the administrators, faculty and student body; eagerness to receive and share opinions of other educators regardless of variant philosophies and biases; sincere and basic concern to further deaf education.

Excellent recreational program.

Freedom of staff to plan and work outside a structured curriculum.

Facilities of the school: Swimming pool, gymnasium, and the outdoor area.

Small class size which enabled teachers to give much individualized instruction and attention.

Relaxed atmosphere of the school. Rapport between student and teacher.

Interest shown by the children in the classroom activity.

Children not being called out of classroom for trip to dentist, school nurse, to have hearing tested or their aids fixed, etc.; or to practice for some particular program.

Good use of summer hours not often profitably used by pupils.

Utilization of every possible approach to spur language. Learning situations based on needs of child.

AMERICAN INSTITUTES FOR RESEARCH

Washington Offices

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November 22, 1967

MEMORANDUM

To: Dr. Thomas Behrens

From: Charles F. Williams

Subject: Observation Report of Kendall School Summer Project

The observations set forth in this report were gathered during two visits to the Kendall School Summer Program during July and August 1967. Each of these visits was of a two-day duration and all of the reported on-going activities were observed.

The general evaluation of the overall project was excellent. All aspects set forth in the research proposal were conscientiously being pursued by the entire Kendall school staff. An extremely high "esprit de corps" was demonstrated by the faculty as evidenced not only by their daily classroom reports, but by participation in a wide variety of material and curriculum development activities which were not required as part of the project.

It is impossible for this observer to make any definitive evaluation of the effect of the program upon the students; however, it was clearly evident that the students were very actively engaged in the program and appeared to be enjoying the experience to a higher degree than any other educational program which I have observed over the past seven years.

In my opinion, the greatest value of the program appeared to be in the professional stimulation of the staff and the development of close administrative-teacher-student relationships. The short class day with time allowed for interaction between teachers, preparation of reports, and preparation of classroom activities gave this observer the impression that the teachers were actually "thinking" rather than just frantically "doing." This portion of the day appeared to be very productive. The school day did not end with the cessation of classes, and the most productive work quite possibly took place while the students were engaged in the afternoon recreation programs.

Although the program was set up as a non-structured framework, a high degree of informal structure was supplied by the daily reporting procedures and frequent staff meetings. There appeared to be a rather strong negative reaction on the part of the visiting teachers to the word, "non-structured." I would recommend the term, "creative teaching," be used in future programs.

Application of the multi-media program was outstanding. Teachers were strongly encouraged to experiment with new teaching approaches and to become familiar with a wide variety of multi-media techniques. The use of polaroid cameras and 8 mm. films was very effective, especially in the fact that students were directly involved in the production of materials.

The development and use of programed instructional techniques was emphasized. Several teachers devoted a great deal of "outside" time to adapting the Sullivan programed materials for use on teaching machines. Several short independent programs were constructed by the staff and extensive experimentation was carried out in adapting the use of a word recognition program which had been developed for use with the mentally retarded to use with the deaf population.

During my visits to the Summer School Program a continual series of special events were continually in process, including highly organized recreational programs, a jazz session, experimentation with various types of motion picture presentations, and experimental applications of art techniques to the teaching process.

Recommendations:

1. In future summer programs I would recommend that teachers from other sections of the country be brought into the program on a more direct participation level. Rather than observing activities, they should be assigned to a particular class group for a two-week period and encouraged to participate in the "creative teaching" approach to education.

2. The Kendall Summer School program offers an excellent opportunity to experiment in the use of behavior modification techniques in teacher training. More time could be profitably spent in having each teacher specify particular techniques which she intended to use prior to the class sessions rather than placing so much emphasis upon a chronology of events which took place during the classroom day. Professional guidance could be provided to assist the teachers in conceptualizing and structuring innovative teaching approaches.

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3. Development of criteria for the measurement of benefits to the student presents complex problems. I do not think the short-term effect of summer school experience can be readily measured in objective terms. It is my opinion that the long-range benefits which would accrue from repeated summer school experience would be cumulative and measurable over a period of several years so that the gap between the overall educational achievement of the deaf child, in relationship to the non-deaf child, would be significantly reduced by the additional exposure to an educational environment over a several year period.

CFW:ss

ROCHESTER INSTITUTE OF TECHNOLOGY

65 Plymouth Avenue South - Rochester, New York 14608

National Technical Institute

For The Deaf

SUBJECT: Demonstration Project for the Institution of Summer Curriculum with Special Emphasis Upon Language Acceleration for Hearing Impaired Children.

SPONSORING INSTITUTION: Kendall School for the Deaf

BACKGROUND FOR REPORT: On-site observations and discussions with staff on August 3 and 4.

INTRODUCTORY REMARKS:

This report concerns itself with three distinct facets of the summer program. The points of view expressed result primarily from observing the daily activities of the children and staff on two occasions, and from discussions with personnel representing several levels and areas of responsibilities within the overall program.

The program as viewed was noteworthy from at least three points: namely, the Students, the Educational Personnel and the Corollary Services.

The Students

The children in attendance included a large number of inner city children for whom stable, meaningful, constructive activities and opportunities do not come easily; not for them and not for most of their parents. In addition, the student group included those from middle and upper middle income groups.

The socio-economic heterogeneity represented by the student-body was a major strength in the program. The interaction among these students was of the highest order as frequently occurs in young students when the opportunity for interchange is provided. Most of the lower socio-economic children need their aspiration levels strengthened and heightened. It seemed that in classes and in other group activities, cooperation and interchange occurred as a matter of course in a rather natural manner.

In dealing with the lower socio-economic children the great need for individualized approach, either by way of the teacher alone or in conjunction with a machine, seemed to contribute to much organized and constructive action on the part of the child. This factor was evident from the willingness on the part of the students to participate and communicate in classroom activity hours.

The extreme difficulty and necessary programming costs associated with the education of inner city deaf children appeared to be recognized by those in charge of the program activities.

The students reflected in small but significant ways the suggestion that the program was allowing them to become something important and worthy of attention which they obviously were receiving. It might be said that the self perception of many was undergoing modification, and that a breadth of experiences of the nature provided in the summer program is a step in the right direction for helping students set new goals for themselves. Although all deaf children are not in equal need of an intensive summer program, there is little question that inner city deaf children desperately need this kind of experience.

Educational Personnel

The rich backgrounds and talents of the educational personnel to which the students were exposed obviously contributed to the feedback provided by students. High interest and enthusiasm displayed by the staff appeared to be reflected by the students.

The possibility for visiting teachers from other schools and classes to compare problems and techniques was a positive aspect of the project. The teacher interchange was made productive as a result of their having seen and talked with the same children. Rarely do teachers have the opportunity for such free and frank discussions about educational approaches.

The value of differentiating responsibilities within the educational setting was being tested in some measure. The concept of classroom management took a small step forward. The recognition that multiple abilities and skills are required within an educational program for deaf children was refreshing to see; the focus of attention and effort on the part of the staff was directed straight to the child and it appears this type of daily work is required to overcome deficiencies in inner city children, and the means by which some children for the first time are allowed to blossom.

The need for adequate daily preparation on the part of teachers was underscored again. The necessity to develop software and new approaches to teaching are less likely to occur if teachers do not have the opportunities to produce appropriate teaching materials on a daily basis. The time allowed for this aspect of teaching was a positive aspect of the program.

Corollary Services

The commercially available and custom designed audio-visual equipment used in the program was of a high order. The personnel available to discuss the new instrumentation contributed a great deal to its receptivity by the instructors and visiting teachers. The programmed instruction devices and visual speech indicators were used in a constructive manner. The long-term significance of these devices must await further research but an equally important fact is that work along these lines was able to have been accomplished.

The use of part-time personnel in the program was not particularly productive; at least during the period of observation made by this observer. The concepts and mechanics for bringing novel experiences to students might best be done first, at the administrative level and second, through the full-time employment of those possessing the necessary knowledge and skills for application within the overall educational program.

In summary, the program concept was in part achieved. The experience must have been beneficial for most of the students in attendance along the lines suggested earlier. This applies equally to the visiting and staff personnel who had an opportunity to actually sit and talk with one another. And, finally, the application of some new technology in education at least had an abbreviated hearing within the time limitations of the project.